

Determinants of CSR adoption: An institutional and social network approach.

Introduction

Firms have increasingly adopted Corporate Social Responsibility (CSR) practices in light of continuous concerns from society regarding issues such as diversity, climate change, or poverty. The CSR literature has offered economic and institutional reasons why firms adopt CSR practices (Orlitzky, Schmidt, & Rynes, 2003; Jamali & Neville, 2011; Matten & Moon, 2008). However, while the economic reasons for CSR have been continuously tested with mixed results (e.g. McWilliams & Siegel), the institutional contributions for CSR have been more theoretical. More specifically, the relational aspects of how firms are influenced by other firms for CSR are underdeveloped. Concentrating primarily on the economic reasons for firm engagement in social and environmental activities might produce incomplete or misleading explanations for CSR adoption. This paper attempts to provide empirical evidence on how firm's institutional pressures influence the adoption of CSR practices.

The CSR literature has focused much of its efforts in finding a direct relationship between firm's financial performance and engagement in social and environmental activities. However, much of these results lack consensus in demonstrating this relationship, finding it difficult to promote CSR from an economic point of view (Cavaco & Crifo, 2014; van Beurden & Gossling, 2008). Trying to clarify these inconsistent results, several institutional explanations have been offered. Some argue that relations with stakeholders mediate the effect from CSR on firm performance (Barnett, 2007), others suggest that the CSR-performance relationship is affected by institutional conditions, such as contacts with trade associations or non-governmental organizations (NGOs) (Campbell, 2007). Nevertheless, little empirical evidence exists in both cases.

In the case of social networks, peer influence serves as an explanation of why firms adopt certain practices. Literatures from public health (Valente, Hoffman, Ritt-

Olson, Lichtman, Johnson, 2005), information technology (Attewell, 1992), and political science (Mizruchi, 1992) have found evidence of the influence of actors tied to other actors. In the case of firms, influence is frequently transmitted through board interlocks. Board interlocks, i.e. common board members shared by two or more firms, are influential actors since they serve as social conduits connecting firms in networks and sharing information that permit the diffusion of management practices from one firm to another (Mizruchi, 1996; Zajac & Westphal, 1996).

Aligned to the argument of peer influence, institutional theory suggest that firms adopt practices, not necessarily as a rational decision but to appear as legitimate as others do (DiMaggio & Powell, 1983; Meyer & Rowan, 1979). This scenario applies perfectly for CSR practices. As social and environmental issues increases, firms that are not involved in CSR are often criticized and pushed to adopt such practices (Christmann & Taylor, 2002; Henriques & Sadosky, 1999). As a result, the connections among firms and pressures from institutionalized practices may suggest more relational than economic reasons for CSR practice adoption.

Accordingly, the objective of this paper is to analyze relational and institutional influences in the adoption of CSR practices. In this study, we use a social and environmental certification named ESR (Empresa Socialmente Responsable) which represent the presence of social and environmental practices in the adopters. Using board interlocks from listed firms in the Mexican Stock Exchange, we create a network of firms and test hypotheses using a Multiple Regression - Quadratic Assignment Procedure (MR-QAP). The paper is structured as follows. First, we present relevant literature on CSR, institutional theory, and social networks. Second, we construct hypotheses around relational influences among listed firms and its impact on CSR adoption. Third, we describe the methodology used for the data collection and how this data was analyzed followed by an explanation of the results found in this study. Finally, we discuss the results and provide some concluding remarks.

Literature Review

A long standing question in the CSR literature has been how a firm's involvement in social and environmental activities improves its financial performance. So far, the consensus in the literature is limited. Although some literature reviews on CSR have suggested some consensus (see van Beurden and Gössling, 2008), individual results from research over the past 30 years show positive, negative, mixed and no results at all (Margolis and Walsh, 2003). In an attempt to settle this conflict, some researchers argue that overall, research on the social and financial relationship is positive. Using meta-analysis, they claim that there is a higher proportion in the number of positive results compared with negative or mixed results (Orlitzky, Schmidt, & Rynes, 2003). Others take a contingent approach, suggesting that a positive relationship is present only for some stakeholders (Cavaco & Crifo, 2014) or only when there is a strategic alignment between CSR and core business activities (Husted & Cantu, 2006).

This quintessential economic relationship was eagerly persuaded in the literature because it was one good way to convince firms to adopt CSR practices. The idea that doing good pays was the best incentive to promote the CSR agenda in an instrumental way. However, by doing this, CSR literature has largely ignored other reasons for practice adoption. Margolis and Walsh (2003, p.278) acknowledge that this economic quest in the literature "reinforces, rather than relieves, the tension between corporate responses to social misery". Perhaps then, it is useful to understand CSR adoption from a different perspective, i.e. a relational perspective.

CSR and Institutional Theory

The recent incorporation of institutional theory into the CSR literature represents an attempt by researchers to provide alternative explanations for practice adoption. In general, the institutional perspective concentrates on social rather than rational-economic reasons for organizational action. The institutional literature aims to explain how organizations make decisions based on taken for granted ideas and rather than rational economic reasons (DiMaggio & Powell, 1983).

Institutional theory is a relatively new theoretical framework for CSR, with potential to provide better explanations for CSR involvement (Brammer, Jackson, &

Matten, 2012; Campbell, 2007; Hah & Freeman, 2013; Matten & Moon, 2008; Yang & Rivers, 2009). For example, Brammer, et al. (2008) explain that institutional theory suits CSR because it helps to differentiate the paradox between voluntary engagement and responsibilities imposed by society. Also, Matten & Moon (2008) argue that institutional concepts serves well as a theoretical framework for CSR especially for what they call explicit CSR, i.e. social and environmental activities that are articulated openly to the public.

The main idea behind the increasing introduction of institutional theory in the CSR literature is to understand the role of the broader social and political context in the decision to engage in CSR practice, which is neglected in economic accounts. For example, Yang and Rivers (2009) study how MNC subsidiaries adopt local practices to gain local legitimacy in host countries with a different institutional context. Also, Zaho, Tan, & Ho Park, (2013) focus on the role of governments to create rules for CSR involvement for MNC. They suggest that institutional sophistication, i.e. the degree in which the country have established rules for CSR determines its adoption. By introducing institutional theory, these studies concentrate in the social, rather than the economic variables that determine the adoption of social and environmental practices.

Conversely, the CSR literature has also concentrated on isomorphism, a central concept on institutional theory, to explain why firms adopt similar CSR practices. For example, Husted, Montiel, & Christmann (2016) analyze how MNC subsidiaries differ or not in adopting national or international social and environmental certifications. Focusing on the MNC in Mexico, they find that subsidiaries imitate nearby local firms, suggesting that international firms are influenced by pressures for local legitimacy, creating local isomorphism.

Isomorphism can be the outcome of mimetic, normative or coercive institutional reason. Mimetic isomorphism deals with the pressures firms experience to imitate the practices of other firms given uncertainty about the relationship between the means to achieve certain ends. In order to reduce uncertainty in their environment, firms will tend to adopt similar practices, thus resembling others. This modeling of practices, as DiMaggio and Powell (1983) call it, can happen through different channels, such as

employee movement between firms, the use of consulting firms, participation in industry trade associations, or, in case of this paper, board interlocks.

Normative isomorphism refers to professionalization, which is “the collective struggle of members of an occupation to define the conditions and methods of their work” (DiMaggio & Powell, 1983, p. 150). Normative pressures emerge from two sources, one that relates to formal education and the other to professional associations. These factors create greater isomorphism of firms since employees receive similar training in universities and networks of professional associations help in the support and diffusion of similar practices.

Finally, coercive isomorphism “results from both formal and informal pressures exerted on organizations by organizations” (DiMaggio & Powell, 1983, p. 150). In the case of CSR practices, especially environmental practices, the regulations imposed by governments promotes similar practices and structures among firms as they seek to comply with the law.

In this study, we focus on mimetic, normative, and coercive isomorphism since it helps to explain the transmission of CSR practices among adopting firms.

Social Network Theory and Practice Adoption

Social network theory has gained momentum in current organizational research. The limitations traditionally attributed to individual actors in a social environment and the increasing complexity of the organizational context has created the necessity for more complete answers instead of isolated explanations of the interactions in organizations (Borgatti & Foster, 2003).

Wellman (1983) defines social network analysis as the description of network patterns that limits social behavior and change. A network is defined as “a set of actors connected by a set of ties” (Borgatti & Foster, 2003 p.992). Each of these actors (nodes) can take the form of persons, teams or organizations, where the connections or ties among them are the central component for network theory.

To analyze the relationships presented in ties in a particular network, such as in the case of board interlocks, social network theory helps to explain how social interactions shape individual and organizational behavior (Wasserman & Faust, 2009).

According to this literature, it is the relationships among actors that determine behavior and provide richer understanding of the process of social reality. As an emergent approach in social sciences, social network theory has evolved to become more robust in its methodology and more inclusive of other fields such as organizational studies, marketing science or health studies (Rogers, 2003).

The role of interlocks has been studied for many years as the tie that connects firms (Mizruchi, 1996; Ornstein, 1984; Shropshire, 2010). An interlock is a board member who participates in two or more firms and represent a potential vehicle to carry or diffuse information from one firm to another (Davis & Greeve, 2007; Haunschild, 1993). A network of interlocks is the collection of dyadic relationships characterized by strong geographic extension in comparison with other types of networks (Ornstein, 1984).

The formation of board interlocks has been studied from different angles. For example, Mizruchi and Stearns (1988) present the traditional view that interlock creation is highly related to the firm's capital dependence. This dependence is due to financial institutions that appoint representatives to the boards of firms with high long term debt as a mechanism of control. Besides this reason, Mizruchi and Stearns (year) also found that interlock creation is also more likely to occur in firms during expansion or in the case of contractions on the firm's business cycles.

The literature on interlocks is not scarce and has evolved during the last decade becoming much more specific, particularly, in understanding the processes that leads members of boards in different organizations to promote best practices (Mizruchi, 1996). For example, Simoni and Caiazza (2012) explain the formation of interlock directors by the type of information intended to acquire by a firm. In their study, they found that firms establish certain connections with other firms, using interlocks, to find industry specific information. The authors suggest that this selective interlocking is used to have access to knowledge that reinforces common practices of the industry and not new information. This is interesting in terms of the possible role that interlocks could play in later stages of diffusion where firms might use interlocks to maintain the status quo. However, research on interlocks has been highly concentrated in developed economies; perhaps this has happened since interlocks are more common in large

public firms. An exception is the work of Rocha (2012), who analyses interlock networks of public firms in México.

Few studies in the CSR literature have focused on understanding the effect that network ties have on practice adoption (see, Davis & Greve, 1997; Galaskiewicz & Burt 1991; Shipilov et al. 2010). However, the few studies that exist in the literature use traditional econometrical models to approach network data, reducing the explanatory power of relational data and violating some critical assumptions of econometric models such as the independency between observations.

As explained in this section, the importance of understanding the role of the social interactions is crucial in the adoption of practices across firms. For this study, we take a social network perspective to approach the adoption of social and environmental practices in México.

Hypotheses

The main premise on this work is that social interactions that happen among firms serves as conduits for adopting CSR practices. The conduits in this work, in the form of board interlocks, industry associations, or common business structure, represent a form to test influence in a social system, particularly in the case of embeddedness (Mizruchi, 1996).

First, in the case of board interlocks, Useem (1984) stresses its importance as vehicles that facilitate communication, while Haunschild (1993) argue that interlocks are low-cost channels for the diffusion of information. The importance of the board interlock is centered not on its existence per se, but on the basic tie between two specific firms that the interlock represents (Mizruchi, 1996).

Actors in networks communicate information via direct contact (Burt, 1991). Direct contact is usually an effective way to transmit information since a face to face interaction is a strong mechanism for contagion. This mechanism is a cornerstone in network theory for organizational analysis since organization's decision making is not done in isolation, but embedded in a social system (Grannovetter, 1985). The network ties resulting from the interactions among organizations help to communicate and

diffuse ideas or in this case a CSR practice. As a result, a network approach can help trace the influence of board interlocks for practice adoption.

In this network context, being in contact with firms that have adopted certain practices create pressure for adoption (Attewell, 1992, Shipilov, et al. 2011). As the adoption spreads, the institutional pressure increases as a force that make organizations comply to the establishment, even though the practice often implies additional costs in its implementation (Meyer & Rowan, 1977). In particular, interactions resulting from direct contact increase chances for imitation. The mimetic mechanism from DiMaggio and Powell (1983) explains how firms follow others based on direct interactions with others for practice adoption. This is especially true when practices are uncertain in either the benefits they produce or how they are implemented, a characteristic often found in CSR activities.

In terms of CSR practices, much of the discussion and the decision of how involved a business is in terms of social and environmental practices occurs in the top management (Agle, Mitchell, & Sonnenfeld, 1999). This situation allows visibility of the practice for board members creating greater opportunities for exposure among those members that participate in two or more firms.

As a result, it would be expected that the network formed by board interlocks will help to communicate practices facilitating the adoption of social and environmental activities. As a result, we present hypothesis one:

H1: Firms that are connected via board interlocks are more likely to adopt the ESR certification

Direct contact might not be the only influential factor creating similarity in the adoption of practices. An intuitive criterion that could be relevant for firms that become similar in practice adoption is the industry. The benchmarking that generally occurs within firms in the same industry creates opportunities for firms to become visible and similar in terms of managerial practices. Practices such as total quality management or ISO 9000 can be very industry specific, i.e. can be found more frequently in one industry than others (Delmas & Montiel, 2008; Kennedy & Fiss 2009).

For firms that belong to the same industry, is a common practice to participate in the same industry associations and communicate similar practices among its members. The normative mechanism from DiMaggio and Powell (1983) explain how firms can be influenced by the standard practices in a specific group. The normative mechanism gets its major influence from professionalization which is “the collective struggle of members of an occupation to define the conditions and methods of their work” (DiMaggio & Powell, 1983, p. 150). Normative pressures emerge from two sources, one that relates to formal education and the other to professional associations. These factors create greater isomorphism of firms since employees receive similar training in universities and networks of professional associations help in the support and diffusion of similar practices (Galaskiewicz, 1985; Tolbert & Zucker, 1983).

As a result, a similar trait such as sharing the same industry will create greater communications channels and a tendency that those firms that have adopted the ESR certification will influence other firms that are in the same industry.

H2: Firms that that are similar in the industry will be more likely to adopt the ESR certification

Also an influential factor for practice adoption is being part of the same business group. A business group is defined as those “individual firms that are associated by multiple links, potentially including cross ownership, close market ties, and social relations through which they coordinate to achieve mutual objectives” (Yiu, Lu, Bruton & Hoskisson, 2007 p.1551). The influence that business group have over other members can create similarities among the members of the group (Morck & Yeung, 2003). For example, Khanna and Rivkin (2001) detect similarities in profitability among members of a business group. Also, Kim, Pae, and Yoo (2017) found that group-affiliated firms make more charitable contributions than non affiliated groups.

Even more, a business group can share the same policy in terms of practice adoption, making mandatory for the members of the same group to adopt the practice once the headquarters have decided to take specific action. The coercive mechanism from DiMaggio and Powell (1983) explains how firms become similar because of the influence of a mandatory position. As a result, the inter-dependencies within business groups are an important factor to consider since they represent an important

explanation for practice adoption (Guler & Guillén, 2002; Kostova & Roth, 2002). Thus, it is expected that firms that are similar in terms of belonging to a business group will more likely be influenced to adopt similar practices *via* coercion. As a result, we propose the following hypothesis:

H3: Firms that are similar in terms of business group affiliation will be more likely to adopt the ESR certification.

Methodology

Since the objective of this paper is to analyze the influence of network ties on the diffusion and adoption of managerial practices we collected information regarding board of directors of Mexican listed firms in 2011. Board interlocks are classic tie criteria for businesses networks. However, despite the fact that board interlocks are used to create relational networks, the data and the statistical methods used to analyze them frequently are not. The traditional statistical way in management to analyze network ties is using traditional econometric models, loosing explanatory power by simplifying network ties in to vectors containing only the number of interlocks. Concordantly, this research uses MR-QAP as the statistical tool to test the hypothesis for network data. The econometric model in this papers is the following:

$$CertificationESR_{ij} = \alpha + \beta_1 Interlocks_{ij} + \beta_2 Industry Sim_{ij} + \beta_3 Business Group Sim_{ij} + \beta_4 CEO Duality Sim_{ij} + \varepsilon$$

Since MR-QAP requires a matrix to run the variables, we converted the vector containing the information of the dependent and independent variables into a matrix using *Product* as the similarity metric. The product option provides a matrix $n \times n$ with ties X_{ij} where n is the number of listed firms in 2011 and i and j is the tie among two firms. If i and j have adopted the CSR practice, belong to the same industry, are similar in CEO duality and business group, then X will be 1, if not a 0. In this model, we included a time lag to capture the effect of the interlocks in the adoption of the practice, as a result, the information on dependent variable certification ESR correspond to 2012.

Dependent Variable

The Empresa Socialmente Responsable (ESR) practice is an initiative to certify firms that engage in desirable social and environmental practices. The CEMEFI Centro Mexicano para la Filantropía is the NGO responsible for the creation of the ESR certification in 2000. In order to get the certification, firms will go through a process of self-evaluation in accordance with a set of pre-established guidelines. These guidelines comprise four areas, namely (1) quality of life, (2) business ethics, (3) relationships with the local community and (4) environmental protection. Each year the CEMEFI announces the newly certified firms and those that renew their previous certification. I used the 2012 list to find the listed firms that had been admitted. As a result, there is a one-year lag between the dependent and the independent variables. To construct the matrix format that requires MR-QAP regression, we transformed the adoption information into a matrix $n \times n$ with ties X_{ij} . Where n is the number of listed firms, i and j represent two listed firms of the network that have a tie based on adoption of the ESR certification. If i and j have adopted the certification then X will be 1, if not a 0.

Independent variables

Board interlocks

Firms listed in the Mexican Stock Exchange, following best practices in corporate governance, make publicly available the names of their board members. To facilitate access to information the Mexican Stock Exchange presents in its website the annual reports, which contain the board members for all listed firms including each position and type. In order to identify which person was present in two or more boards, we created a list of the all the names in excel and then counted and marked each time a board member was in a different board.

Once collected, the 120 firms had a total of 2171 directors registered. After a deputation process to identify those board members who participated in more than one firm, we filtered the names of directors alphabetically in order to eliminate those repeated names indicating for each name the different firms in which that person participates. The resulting matrix consisted of 136 firms by 1653 possible directors, of which there were

518 interlocks. Those interlocks were transformed into a matrix $n \times n$ with ties X_{ij} . Where n is the number of listed firms, i and j represent two listed firms of the network that have a tie based on sharing board members. If i and j have a board interlock then X will be 1, if not a 0.

Industry

The industry type was based on the classification of the stock exchange which divides firms in 10 types. (1) Energy, (2) Construction materials, (3) Industrial, (4) Service and non-basic goods, (5) Frequently consumed products, (6) Health, (7) Financial services, (8) Information Technologies, (9) Telecommunications services and (10) Public services. With this information, we created a matrix $n \times n$ with ties X_{ij} that represents the industry similarity among the firms in the network. Where i and j represent two firms of the network that have a tie based on belonging to the same industry. So, if i and j share the same industry then X will be 1, if not a 0.

Business Groups

In this study, business groups include firms that share cross-ownership, frequent economic transactions, and have strong relational links with other individual firms. Most of these firms are owned and managed by the same family with the exception of a few cases where the relationships are more in terms of a subsidiary or a business unit. In the listed firms from this study, we identified 16 business groups. As a result, we created a matrix $n \times n$ with ties X_{ij} that represents the business group similarity among the firms in the network. Where i and j represent two firms of the network that have a tie when both are members of a business group. So, if i and j belong to a business group then X will be 1, if not a 0.

Control Variable

CEO duality

CEO duality occurs when the CEO is also the board chair (i.e., the CEO and chair are not independent). To control for CEO duality is important the presence of the CEO on the board can serve to promote CSR activities. This is because that many social and environmental decisions are held in the top management (Garriga & Melé,

2004; Waddock & Graves, 1997). since The information about CEO duality was collected by analyzing public reports of each of the firms to detect those cases where the board chair also occupies the chief executive position. In the case of the listed Mexican firms, around around 40% of the firms have the CEO in both positions. With this information, we created a matrix $n \times n$ with ties X_{ij} that represents the CEO duality similarity among the firms in the network. Where i and j represent two firms of the network that have a tie when both have CEO duality. So, If i and j have their CEO as board chair then X will be 1, if not a 0.

Data Analysis

The purpose of social network analysis is to measure social interactions among actors that are related and influence by each other (Wasserman & Faust, 2009). For this, econometric analysis for network relationships has to deal with issues of independency between observations, which are normally required to be absent for normal cross-sectional data with Ordinary Least Squares (OLS). The way out of the correlation problem is using the MR-QAP regression. The basic logic of MR-QAP is to provide a model with the observed data and then create permutations with the dependent variable to explain if the observed model is significant. With 2000 re-established number of permutations MR-QAP creates a normal distribution over the data. This distribution is called the Z test, or normal distribution for relational data.

Results and Discussion

The advantage of using social networks is that relational data can be used to map the configuration of the ties among actors. Figure 1 presents the network configuration of listed firms in the Mexican Stock Exchange in 2011 using board interlocks as the network ties. There are 2 blocks on Figure 1, the list on the right represent isolates, firms that have no ties with any other firm. The second block represent the listed firms with at least one tie to other firm. This second group can be divided in two groups, central and pheriperal.

Also, Figure 1 shows which firms have adopted the ESR certification. Red nodes reorepresents firms that have adopted the ESR certification while blue nodes represent firms that hace not yet adopted the certification. The adoption in this year reached 45 firms out of the 120. As illustrated, there is a particular pattern in the network for the ESR adoption. While there are some few peripheral firms that have adopted the ESR certification, the mayority of adoptants are central firms. Interestingly, no isolate firm has adopted the certification. The centrality of a node in a network is determined according to the number of ties that a node has on the firm. In this case, the more central the firm, the more board members it shares with other firms.

===== Insert Figure 1 Here =====

We statistically test the hypoteses in this this paper to determine the relational factors that promote the adoption of the ESR certification. Table 1 presents the MR-QAP regression with the adoption of the ESR certification as the dependent variable. Overall, the model presents good performance since the adjusted R squared is 0.251 with the overall significance is 0.000, meaning that around 25% of the variance is explained by the model. This suggest that the adoption of the ESR certification is dictated by the interlock network, the type of industry, the CEO independency and the family groups.

===== Insert Table 1 Here =====

Hypothesis one is positive and significant. the coefficient β_1 0.893, significant at 0.01 level having a tie via board interlocks significantly predicts the adoption of the ESR certification. This results show that connections with other firms matter for CSR practice adoption. It is not only the instrumental value of the CSR practice that can predict adoption but relational interactions that produce influence in the adoption.

The institutional mechanism involved in direct contact is mimetism. Due to the increasing demands from society about social and environmental activities, firms look for peer references to diminish the uncertainty involved in adopting practices that are, to some extent, unknown to them. Since CSR has multiple definition and a wide spectrum

of activities is a possibility that firms in BMV imitate the adoption of the ESR certification. As board members that participate in different firms carry information about the ESR certification, the firms that have not yet adopted the practice increase the probability if they have connection to firms that have.

As presented also in Table 1, hypothesis two is not significant. Belonging to the same industry does not determine the ESR adoption. In this case, the normative mechanism does not produce an influence over firms to adopt the ESR certification within its members. A possible explanation of this result is the fact that the sample in this study is limited to those firms that are listed in the Mexican Stock Exchange. As a result, each firm's industry network extends beyond the sample, leaving out other firms in the same industry. This situation may cause the lack of explanatory power in this variable. Also, the characteristic of the practice can be a factor in terms of industry. Since ESR is a general accreditation, not specific to some industries such as the case of Forest Stewardship Council (FSC) certified Wood, industry might not be a relevant criteria influencing the adoption.

Hypothesis four which tests the influence of Business Groups in practice adoption, is also positive and marginally significant. The coefficient β_3 0.031, significant at the 0.1 level means that firms that belong to the same business group marginally predicts the adoption of the ESR certification. As a result, influence of the business group on CSR adoption exists but not as strong as the rest of the independent variables. The influence for CSR practice adoption can be expected from coercive pressures to firms from the same business group. Accordingly, firms that have common ownership have more influence to adopt the ESR practice than individual firms. A possible explanation of the marginal result might be related to the sample size. Firms that are in the BMV are just a sample of business groups in Mexico and that have adopted the ESR practice. Other explanations might be related to more complex relationships around business groups in Mexico. For example, the market and family ties that exists in many business groups can also be predictors along with the idea that firms from the same business group adopt only because of coercive reasons.

Finally, there is an interesting finding in control variable CEO duality which is positive and significant. The coefficient β_4 0.006, significant at the 0.05 level means that

firms that are similar in CEO duality significantly predict the adoption of the ESR certification. When the CEO, also occupies the presidency of the board influence ESR adoption. This effect can be explained by the fact that much of the firms's CSR agenda depends on the CEO's influence on the board. If the CEO is the board chair, which in the case of the Mexican firms occurs in the majority of cases, it creates more opportunities for exposure of the CSR issues and also be acknowledged by other members of the board that later transmits the ideas to other firms.

Conclusion

This paper presents relational factors that influence CSR practices. Using ESR, a social and environmental certification in Mexico, this study shows that board interlocks and similarity on business groups influence the adoption of social and environmental practices. Our results help to explain how firms can influence peers to adopt CSR practices, i.e., increasing firm's connections can create greater communication channels for firms in terms of social and environmental practices.

Our results also show that the major institutional factor influencing the adoption of CSR practices among the listed firms is the mimetic mechanism. The board members that participate as a connection between two or more firms are relational links that influence the adoption of CSR. The more direct contact (i.e. board interlocks) with other firms create more opportunities to imitate those firms that have adopted the ESR certification.

The second major influence on ESR adoption is belonging to the same business group. The coercive influence created by belonging to the same group creates practice isomorphism in this sample. This result explains how CSR practices can be increased when a member of a business group adopts the practice. As a result, we contribute to the CSR literature by suggesting and testing institutional factors influencing CSR practice adoption that can be studied and go beyond the classic reasons related to firm performance.

The fact that the network ties matter is also a relevant contribution in this study. Specifically, we contribute to management literature by suggesting a social network context and social network techniques for understanding business phenomena. We

contribute using social network data and models such as MR-QAP rarely seen in the management literature. By using social network analysis, researchers can increase the study of organizations considering the relational and institutional aspects in which organizations are immersed.

Also, the Mexican context offered in this study might be interesting for policy making in terms of practice adoption, especially around social and environmental issues. In particular, the highly relational characteristics that are presented in developing countries such as board duality and business groups can be important to strategically promote CSR practices and effectively target firms to increase CSR adoption and help in solving some of the social and environmental problems present in these regions.

Some limitations exist in the elaboration of this paper. For example, the data is taken for a single year which does not reflect changes or relationships in time. Further research should consider the changes of tie formation and change behavior across time. Even though the dependent variable is lagged one year, there is a clear cross-sectional limitation. By designing a longitudinal study, researchers can create better explanations on the adoption and the diffusion of CSR practices. Also, the network used in this research is limited both in the sample and in the geographic context. Further research can create different networks that do not consider only public firms or single regions.

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